

REMARKS/ARGUMENTS

In the Office Action, the Examiner rejects claim 1 under 35 U.S.C. §102(e) as being anticipated by Gruber et al. (U.S. Patent No. 6,489,675); rejects claim 4 under 35 U.S.C. §103(a) as being unpatentable over Gruber et al.; rejects claims 2, 3, 5, and 6 under 35 U.S.C. §103(a) as being unpatentable over Gruber et al. and further in view of Lam et al. (U.S. Patent No. 6,256,200); and rejects claims 1-6 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,468,832. The rejections are fully traversed below. Reconsideration of the application is respectfully requested based on the following remarks.

New claims 7-16 have been added. Accordingly, claims 1-16 are now pending in this application.

TELEPHONE INTERVIEW

Reconsideration of the application is earnestly requested. The Examiner is thanked for the telephone interview of 20 May 2005. During that interview, the rejected claims were discussed with reference to the cited materials. The reason presented at the interview that appeared to warrant favorable action is that "a clear molding material that encapsulates the integrated circuit and a portion of each conductive bump such that each conductive bump is partially exposed through the clear molding material, whereby light can pass through the clear molding material and reach the first set of light emitting or sensing devices", as recited in claims 1 and 4.

REJECTION OF CLAIM 1 UNDER 35 U.S.C. § 102(e)

Claim 1 relates to an optical integrated circuit package. Specifically, claim 1 requires among other things "a clear molding material that encapsulates the integrated circuit and a portion of each conductive bump such that each conductive bump is partially exposed through the clear molding material, whereby light can pass through the clear molding material and reach the first set of light emitting or sensing devices". Clear molding material is described throughout the specification and the drawings; for example, they are indicated with reference number 312 in FIG. 3.

Although Gruber et al. discloses an optical semiconductor component with an optically transparent protective layer, Gruber et al. neither teaches nor suggests a clear molding material configured in the manner claimed. As shown in the Figure, Gruber et al. teaches an optically

transparent protective layer 4 that merely covers (not encapsulates) a semiconductor body 1 and nothing else. In addition, it is known in the semiconductor industry that a die (i.e., semiconductor body 1) is not clear due to the different material layers involved in the fabrication of the die. Specifically, it is known that semiconductor materials such as Silicon are not transparent. It is respectfully submitted that Gruber et al. does not teach or suggest the features of the claimed invention (e.g., "such that each conductive bump is partially exposed through the clear molding material"). Therefore, it is submitted that claim 1 is patentably distinct from the cited materials.

REJECTION OF CLAIMS 2-6 UNDER 35 U.S.C. § 103(a)

Claim 4 relates to an optical integrated circuit package. Similar to claim 1, claim 4 also requires among other things "a clear molding material that encapsulates the integrated circuit and a portion of each conductive bump such that each conductive bump is partially exposed through the clear molding material, whereby light can pass through the clear molding material and reach the first set of light emitting or sensing devices". Therefore, claim 4 is respectfully submitted to be patentable over cited materials for at least the reasons set forth above with respect to claim 1.

The Examiner's rejections of the dependent claims are respectfully traversed. Claims 2, 3, 5, and 6 each depend either directly or indirectly from independent claims 1 or 4, therefore, are respectfully submitted to be patentable over cited materials for at least the reasons set forth above with respect to claims 1 or 4. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited materials.

REJECTION OF CLAIMS 1-6 UNDER THE JUDICIALLY CREATED DOCTRINE OF DOUBLE PATENTING

The Examiner's rejections of claims 1-6 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,468,832 are respectfully traversed. In particular, claims 1-6 of the present application relate to optical integrated circuit packages. In contrast, claims 1-20 of U.S. Patent No. 6,468,832 relate to bumped integrated circuits and not to optical integrated circuit packages. As shown in Fig. 12, the bumped integrated circuit 402 is encapsulated with mold compound 1104. Further, U.S. Patent No. 6,468,832 explicitly teaches that mold compound 1104 provides optical protection by way of "shielding the die from light, since the die may be affected by light". (See column 4, lines 29-34) As such, claims 1-20 of U.S. Patent No. 6,468,832 relate merely to bumped

integrated circuits and not to optical integrated circuit packages with a clear molding material and light emitting or sensing devices as recited in claims 1-6 of the present application. Accordingly, it is respectfully requested that the judicially created double patenting rejection be withdrawn.

NEW CLAIMS 7-16

New claims 7-16 are believed to be patentable over the art of record for much the same reasons as claims 1 or 4. Support for the new claims can be found in Fig. 3, Fig. 4, Fig. 5, and elsewhere in the Specification.

MPEP §2001.06(b)

As the present application is a continuation application, under MPEP §2001.06(b), Applicants respectfully request that the Examiner consider the prior art cited in the related parent applications. Furthermore, Applicants request that the Examiner indicate in an office action whether the prior art of the parent applications has been reviewed.

SUMMARY

It is respectfully submitted that all pending claims are allowable and that this case is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. NSC1P236C1).

Respectfully submitted,
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